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10/804,016	03/19/2004	Sung-hee Hwang	1793.1209	8198

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EXAMINER	
ORTIZ CRIADO, JORGE L	
ART UNIT	**PAPER NUMBER**
2627	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/804,016	HWANG ET AL.	
	Examiner	Art Unit	
	JORGE L. ORTIZ CRIADO	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 40-44 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The examiner is directing applicant's attention to the pertinent portion of the specification where the phrase " medium" is defined as being a non-tangible medium, a transmission including a wave guide, carrier signal, etc.

Claims 40-44 are drawn to a "program" /"code" *per se* as recited in the preamble and as such is non-statutory subject matter. See MPEP § 2106.IV.B.1.a. Data structures not claimed as embodied in computer readable media are descriptive material *per se* and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention, which permit the data structure's functionality to be realized. In contrast, a claimed computer readable medium encoded with a data structure defines structural and functional interrelationships

between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory. Similarly, computer programs claimed as computer listings *per se*, i.e., the descriptions or expressions of the programs are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program's functionality to be realized.

The claims should recite the phrase from the specification that is limited to a "tangible computer readable medium". The applicant might use the phrase "computer storage medium" in the specification and define such as limited to a tangible computer readable medium. The applicant might explicitly use the phrase "tangible computer readable medium" in the specification. The claims could then be amended to recite "computer storage medium" or "tangible computer readable medium".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-44 are rejected under 35 U.S.C. 102(e) as being anticipated by Park et al. U.S. Patent No. 7,289,404.

Regarding claim 1, Park et al. discloses a method of managing defects on a recording medium, the recording medium including a plurality of temporary defect management areas (TDMA1, TDMA2, etc.) for managing defects detected on the recording medium, the method comprising: performing defect management using the plurality of temporary defect management areas; and writing full flag information (TDMA full flag; Figs. 12,13) indicating that one temporary defect management area, of the plurality of temporary defect management areas, is exhausted to at least one of the remaining plurality of temporary defect management areas (See Figs. 8 and 9; col. 9, lines 40-54) when the one temporary defect management area is exhausted.

Regarding claim 2, Park et al. discloses wherein the recording medium further comprises a defect management area (DMA), separate from the temporary defect management areas, for defect management during playback of the recording medium (See Figs. 4-7).

Regarding claim 3, Park et al. discloses performing the defect management using the remaining temporary defect management areas, without the one temporary defect management area that is exhausted, when the at least one of the remaining plurality of temporary defect management areas includes the full flag information (see col. 9, lines 40-54).

Regarding claim 4, Park et al. disclose he method of claim 1, further comprising: disposing at least one of the plurality of temporary defect management areas in at least one of a lead-in area, a lead-out area, and an outer area of the recording medium; and disposing at least one of the plurality of temporary defect management areas in a data area of the recording medium.

Regarding claim 5, Park et al. discloses wherein the writing of the full flag information comprises writing full flag information, indicating that the one temporary defect management area is exhausted, to the one of the remaining plurality of temporary defect management areas disposed in the data area when the one temporary defect management area disposed in at least one of the lead-in area, the lead-out area, and the outer area is exhausted (See Figs. 4-7).

Regarding claim 6, Park et al. discloses wherein the writing of the full flag information comprises writing full flag information indicating, that the one temporary defect management area is exhausted, to the one of the remaining plurality of temporary defect management areas disposed in at least one of the lead-in area, the lead-out area, and the outer area when the one temporary defect management area disposed in the data area is exhausted (See Figs. 4-7 and Figs. 8,9 and 12; col. 10, lines 17-34).

Regarding claim 7, Park et al. discloses wherein temporary defect information, including information of detected defects, is recorded in temporary defect management areas in a reverse

sequencing from a rear of each respective temporary defect management area to a front of each respective temporary defect management area (see Figs. 8 and 9).

Regarding claim 8, Park et al. discloses a method of managing defects on a recording medium having a single recording layer on which a lead-in area, a data area, and a lead-out area are sequentially disposed, the data area having a first spare area (ISA) and a second spare area (OSA) at the respective opposite ends thereof, the method comprising: allocating a first temporary defect management area (TDMA1) to at least one of the lead-in area and the lead-out area of the recording medium; allocating a second temporary defect management area (TDMA2) between the first spare area and a user data area or between the user data area and the second spare area (See Fig. 4); performing defect management for the recording medium using the first and second temporary defect management areas; and writing full flag information (TDMA full flag; Figs. 12,13), indicating that one of the first and second temporary defect management areas is exhausted, to the other one of the first and second temporary defect management areas, when the one of the first and second temporary defect management areas is exhausted (See Figs. 8 and 9; col. 9, lines 40-54).

Regarding claim 9, Park et al. discloses defect management areas, without the one of the first and second temporary defect management areas that is exhausted, when the other one of the first and second temporary defect management areas includes the full flag information (see col. 9, lines 40-54).

Regarding claim 10, Park et al. discloses wherein the performing of the defect management comprises: updating temporary management information in the second temporary defect management area whenever a predetermined number of clusters in the user data area are filled or whenever a verify-after-write operation, on the recording medium, is completed a predetermined number of times (see Figs. 8, 9);

and updating temporary management information in the first temporary defect management area whenever a recording operation is completed, wherein the updating of temporary management information in the first temporary defect management area occurs according to a period different from the updating of the temporary management information in the second temporary defect management area (col. 9, lines 40-54).

Regarding claim 11, Park et al. discloses wherein the performing of the defect management comprises writing the most update temporary management information in the first or second temporary defect management area to a defect management area provided in at least one of the lead-in area and the lead-out area of the recording medium, with the defect management area being used for defect management during playback of the recording medium (see col. 8, lines 49-63; col. 9, lines 17-39).

Regarding claim 12, Park et al. discloses further comprising recording temporary defect information, including information of detected defects, in the first and/or second temporary defect management areas in a reverse sequencing from a rear of each respective temporary defect

management area to the front of each respective temporary defect management area (see Figs. 4-7).

Regarding claims 13-17 recites limitations similar to the ones treated in the above rejections of claims 8-12, further having the features of first and second layers, which are met by the reference (Figures. 6-7), and are rejected for the same reasons of anticipation.

Regarding claims 18, 19 and 22-26, are drawn to the apparatus performing the method of claims 1-7, and are rejected for the same reasons of anticipation.

Regarding claim 20 and 21, Park et al. discloses wherein the defect management area is in a compatible location for rewritable recording media and the recording medium, which is a write-once recording medium and wherein the reproducing and/or recording apparatus is compatible with both rewritable recording media and the recording medium, which is a write-once recording medium (see Figs. 4-7).

Claims 27-30 are drawn to the recording medium used in claims 8, 10 and 11 and are rejected for the same reasons of anticipation.

Claims 31-34 are drawn to the recording medium used in claims 13, 15 and 16 and are rejected for the same reasons of anticipation.

Claims 35-36 and 37-39, are drawn to recording mediums and methods having features similar to the ones treated in the above rejections and met by the reference as discussed above, and are rejected for the same reasons of anticipation.

Claims 40-44 are drawn to codes of the methods corresponding to their respective method claims, and rejected for the same reasons of anticipation.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JORGE L. ORTIZ CRIADO whose telephone number is (571)272-7624. The examiner can normally be reached on Mon.-Fri 10:00 am- 6:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jorge L Ortiz-Criado/
Primary Examiner, Art Unit 2627